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Applicant: Robert T. Bigelow

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Modular Structure

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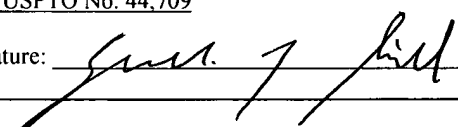
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APPEAL BRIEF

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Sir:

The present Brief is submitted in triplicate in support of an appeal from the fifth office action dated June 30, 2008 rejecting claims 1-4, 6-11, 13-18, 20-21, and 25. The Notice of Appeal was timely filed on September 16, 2008 via first-class mail. Appellant respectfully seeks to have the rejection of claims 1-4, 6-11, 13-18, 20-21, and 25 overturned.

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### **REAL PARTY IN INTEREST**

The real party in interest is Bigelow Aerospace, North Las Vegas, NV, by assignment recorded 11/04/2003 (: Reel 015471, Frame 0908). The inventor of the present application assigned his interests to Bigelow Aerospace by assignment executed on 11/04/2003.

### **RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences known to the Appellant, or the Appellant's legal representative, that will directly affect the Board's decision in the pending appeal.

## **STATUS OF CLAIMS**

Claims rejected: 1-4, 6-11, 13-18, 20-21, and 25

Claims appealed: 1-4, 6-11, 13-18, 20-21, and 25

Claims pending: 1-4, 6-11, 13-18, 20-21, and 25

Claims allowed: none

Claims withdrawn: 5, 12, 19, and 22-29

Claims cancelled: none

## **STATUS OF AMENDMENTS**

37 CFR 41.37(c)(1)(iv) requires a statement of the status of any amendment filed subsequent to final rejection.

There is no final rejection and therefore no status of amendments

## SUMMARY OF THE CLAIMED SUBJECT MATTER

Applicant believes the submission is in compliance with the requirements of 37 CFR § 41.37 (c)(1)(v).

This invention is directed to a cover for use with an inflatable modular structure. The inflatable modular structure has a core with at least two longerons and a plurality of attachment elements disposed thereon for cooperating with a plurality of covers such that each cover is releasably attached to the core in the pre-deployed configuration. There is also an inflatable shell attached to the core, the inflatable shell having an internal surface that generally encloses the longerons and the plurality of covers, and in the pre-deployed configuration the inflatable shell is folded over, and secured to, the covers. In the deployed configuration the inflatable shell is pumped up with air, unfolded from the covers, the covers subsequently released from the core and the covers are removably attached to a plurality of affixing members disposed on the inside surface of the inflatable shell such that the covers serve as a foundation for securing items in place. One aspect of the cover is to provide support and protection for an inflatable shell when the module is in a pre-flight mode. Upon deployment, the cover can act as a useful structure, for example, by retaining equipment.

Referring to independent claim 1, the cover 100 (refer to page/line number 8/19) has a first segment 102 (8/19) of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface 106 (8/20-21), an arcuate exterior surface 104 (8/19-20) disposed generally opposite of the interior surface and perpendicular to the length of the longitudinal axis. The arcuate exterior surface of the first segment 104 (8/19-20) provides protection to the inflatable shell 132 (10/21) from unwanted contact with the core during the pre-deployed configuration. The arcuate exterior surface 104 (8/19-20) has at least one affixing member 138 (11/28) for cooperating with at least one affixing member on the interior surface of the inflatable shell 136 (11-27) such that the arcuate exterior surface is removably attached to the interior surface of the inflatable shell during the deployed configuration. A second



segment 108 (8/21) having a substantially flat surface and is used to substantially secure items in place when the arcuate exterior surface 104 (8/19-20) is fastened to the interior surface of the inflatable shell in the deployed configuration. There are a plurality of ribs 110 (8/27) disposed between, and joined to, the inner surface of the first segment 106 (8/20-21) and the substantially flat surface of the second segment, and a plurality of attachment elements 114 (9/9) disposed on the ribs adapted to cooperate with the attachment elements on the longeron 116 (9/10) such that the cover is releasably attached to the core in the pre-deployed configuration.

Addressing claim 2, there is claimed the invention for a cover 100 (8/19) for use with a core of an inflatable modular structure 124 (10/9). The core 124 (10/9) has a plurality of attachment elements, is claimed. The cover has a first segment 102 (8/19) of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface 106 (8/20-21), and an arcuate exterior 104 (8/19-20) disposed generally opposite of the interior surface and surface perpendicular to the length of the longitudinal axis. There is also a second segment 108 (8/21) having a substantially flat surface, a plurality of ribs 110 (8/27) disposed between, and joined to, the inner surface of the first segment 106 (8/20-21) and the substantially flat surface of the second segment and the ribs 110 (8/27) having a plurality of attachment elements 114 (9/9) that cooperate with the attachment elements on the core 116 (9/10) such that the cover is removably attached to the core.

Addressing claim 3, the claim depends from claim 2 and further includes the core 124 (10/9) has at least two longerons 118 (9/11) and the cover 100 (8/19) has a width and each longerons 118 (9/11) having an outer edge and the width of the cover 128 (10/19) is substantially the distance between the outer edges of the longerons 118 (9/11) and the cover 100 (8/19) fits over the longerons 118 (9/11).

Turning now to claim 4, this claim depends from claim 2 and identifies that the second segment 108 (8/21) is substantially rigid.

Focusing on claim 6, this claim depends from claim 2 and identifies that the cover 100 (8/19) is substantially hollow.

As to claim 7, this claim depends from claim 2 wherein the first segment 102 (8/19) has an access opening. 142 (12/23).

Regarding claim 8, this claim depends from claim 2 wherein the second segment has an access opening 144 (13/9).

Referring now to claim 9, this claim addresses a cover 100 (8/19) for use with at least two braces of a core of an inflatable modular structure, the braces having a plurality of attachment elements. The cover 102 (8/19) has a first segment 102 (8/19) of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface 106 (8/20-21), and having an arcuate exterior surface 104 (8/19-20) disposed generally opposite of the interior surface and perpendicular to the length of the longitudinal axis. There is also a second segment 108 (8/21) having a substantially flat surface and a plurality of ribs 110 (8/27) disposed between, and joined to, the inner surface of the first segment 106 (8/20-21) and the substantially flat surface of the second segment 108 (8/21) and the ribs 114 (9/9) having a plurality of attachment elements. The attachment elements 114 (9/9) on the ribs 114 (9/9) cooperating with the attachment elements on the braces such that the cover is removably attached to the braces.

Tuning now to claim 10, this claim depends from claim 9 wherein the core 124 (10/9) further comprises at least two longerons 118 (9/11) and the cover 102 (8/19) has a width and each longeron having an outer edge and the width of the cover is substantially the distance between the outer edges of the longerons and the cover fits over the longerons.

Referring now to claim 11, this claim depends from claim 9 wherein the second segment 108 (8/21) is substantially rigid.

Addressing claim 13, this claim depends from claim 9 wherein the cover 100 (8/19) is substantially hollow.

Focusing now on claim 14, this claim is directed to a cover 100 (8/19) for use with at least two longerons 118 (9/11) of a core 124 (10/9) of an inflatable modular structure, where the longerons 118 (9/11) have a plurality of attachment elements 116 (9/22). The cover 100 (8/19) has a first segment 102 (8/19) of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior

surface 106 (8/20-21), and having an arcuate exterior surface 104 (8/19-20) disposed generally opposite of the interior surface and along the length of the longitudinal axis. There is a second segment 108 (8/21) having a substantially flat surface; a plurality of ribs 110 (8/27) disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment and the ribs having a plurality of attachment elements 114 (9/9). The attachment elements on the ribs cooperating with the attachment elements on the longerons such that the cover is removably attached to the longerons.

Claim 15 depends from claim 14 wherein the cover has a width and each longeron having an outer edge and the width of the cover is substantially the distance between the outer edges of the longerons.

Turning to claim 16, this claim depends from claim 14 wherein the second segment is substantially rigid.

As to claim 17, this claim depends from claim 14 wherein the first segment has an access opening.

Focusing on claim 18, this claim depends from claim 14 wherein the second segment has an access opening.

Referring to claim 20, this claim depends from claim 14 wherein the cover is substantially hollow.

Claim 21 addresses a cover 100 (8/19) for being removably attached to the core of an inflatable modular structure 124 (10/9) having attachment elements disposed thereon. The cover 100 (8/19) has a first segment 102 (8/19) of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface 106 (8/20-21), and having an arcuate exterior surface 104 (8/19-20) disposed generally opposite of the interior surface and perpendicular to the length of the longitudinal axis. There is also a second segment 108 (8/21) having a substantially flat surface and a plurality of ribs 110 (8/27) disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment. The ribs 110 (8/27) have a plurality of attachment elements 114 (9/9) for cooperating with the attachment elements on the core.

Finally, as to claim 25, this claim is a linking claim directed to a method of using a cover with a core of an inflatable modular structure having a plurality of attachment elements thereon and an inflatable shell which utilizes the cover of claim 2.

## **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Whether claim 1-4, 6-11, 13-18, 20-21, and 25 are unpatentable under 35 USC § 102 for being anticipated by Stewart (USPN 4,375,876; “Stewart”) and Aborn (USPN 1,603,182; “Aborn”).

## ARGUMENT

### 1. Synopsis of the Response

The Office Action prompting this appeal (the latest in a line of five office actions over the last several years and numerous new prior art searches) rejected every claim in the application as being anticipated. In response, applicant notes that the Office Action failed to identify every claim limitation in the prior art, relied upon prior art in irrelevant fields, disregarded the specification, and asserted arguments supporting the rejections that have no basis in the MPEP.

### 2. Background

The present application addresses an inflatable spacecraft longeron cover. It is part of a cutting edge twenty-first century expandable aerospace module that can be used, for example, in Earth orbit.

The module is launched in a compressed state and once deployed inflates to many times the volume of the pre-deployed state. This is accomplished, partly, by way of a flexible shell.

The cover aids in safely securing the shell to the core in the pre-launch configuration. Figure 1b below is illustrative of the cover.

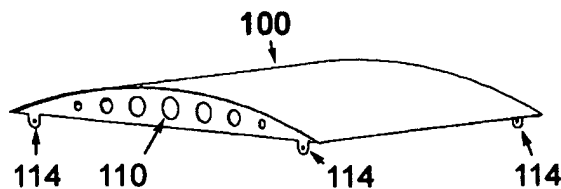
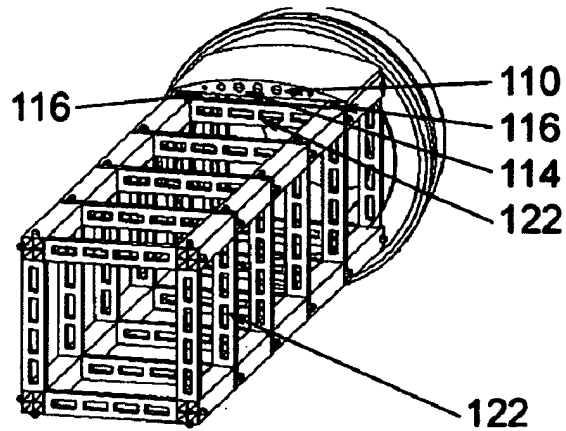
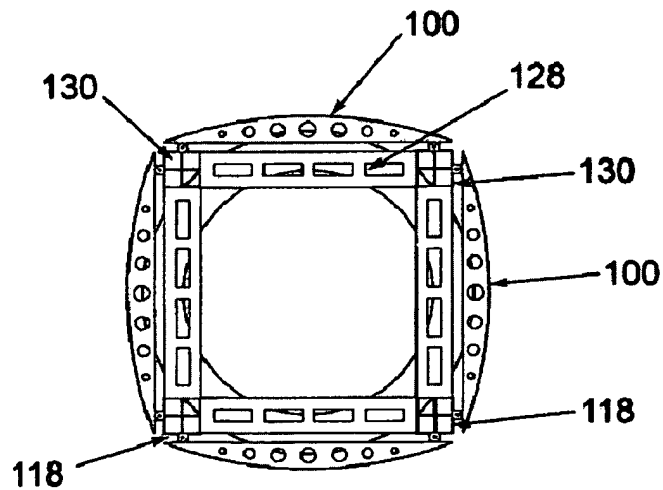


Figure 1e below shows one embodiment where the longeron cover straddles two longerons on the core of an inflatable module.



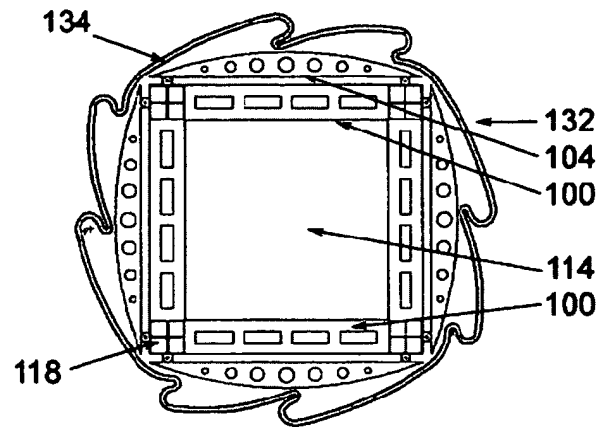
**Fig 1e**

A cross sectional view of the core is shown in Figure 3 that identifies how a group of covers in one embodiment operate in conjunction with the core.



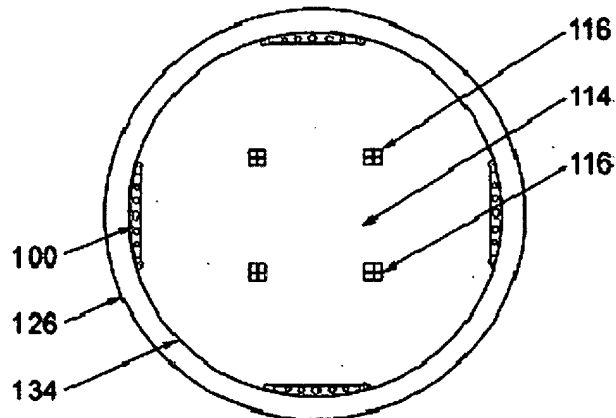
**Fig 3**

The inflatable shell is then folded over the covers. The cover provides a form for the shell and protection from the longerons as shown in Figure 4 for one embodiment.



**Fig 4**

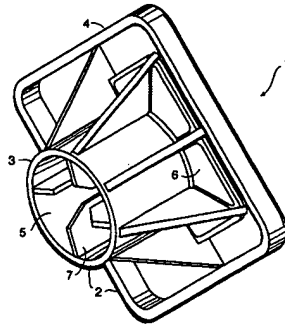
Finally, when the inflatable shell is expanded in the deployed stage, the covers can be attached to the shell as shown below. This allows the cover to be used as a foundation for attaching other equipment.



**Fig 6**

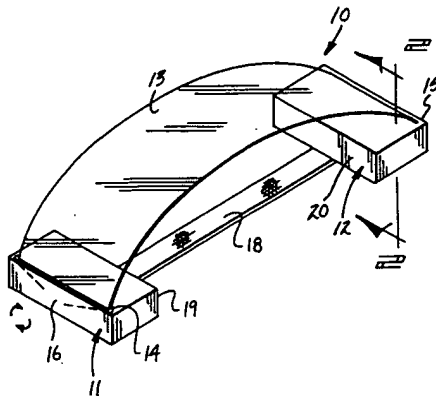


The first office action dated July 14, 2006 alleged that a protective cover for covering an end of a concrete reinforcing bar fully anticipated the invention. (Refer to the prosecution history incorporated fully by reference herein). A response fully addressing the office action was filed, which did not amend the claims nor did it limit, or change, the scope of the invention. (Refer to the prosecution history incorporated fully by reference herein). Figure 2 of that patent is reproduced below:

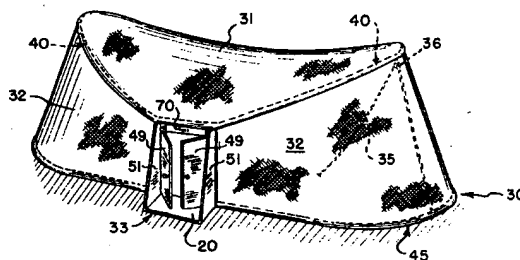


The second office action dated November 6, 2006 based upon a new search took the position that a facial sunscreen for use on a beach – not identified in the first search – anticipated the invention. (Refer to the prosecution history incorporated fully by reference herein). A response fully addressing the office action was filed, which did not amend the claims nor did it limit, or change, the scope of the invention. (Refer to the prosecution history incorporated fully by reference herein).

The sunshade is shown below:



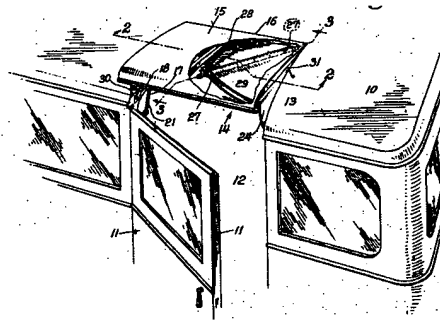
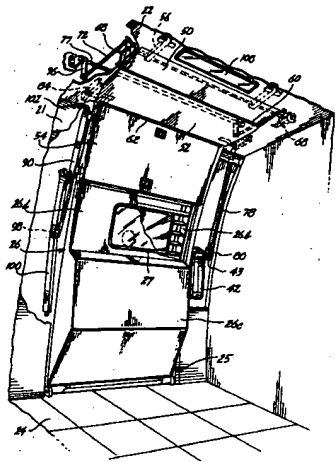
It was argued in the third office action dated April 16, 2007 after yet another prior art search that a stressed building structure – basically a pup-tent that was not identified in the first or second searches – anticipated the invention. (Refer to the prosecution history incorporated fully by reference herein). Again, a responsive fully addressing the office action was filed, which did not amend the claims nor did it limit, or change, the scope of the invention. (Refer to the prosecution history incorporated fully by reference herein). Figure 2 from that patent is reproduced below:



The fourth office action dated August 10, 2007 reasserted that the pup-tent fully anticipated the spacecraft invention. (Refer to the prosecution history incorporated fully by reference herein). The office action contained yet another new “Notice of References Cited”, identifying references not before cited in the prior office actions.

In a discussion with the examiner, after the fourth office action, the applicant agreed to amend the claims for the sole purpose of ending the protracted prosecution. (Refer to the prosecution history incorporated fully by reference herein).

A fifth office action resulted dated June 30, 2008, which relied upon yet another new prior art search citing a top door for an automobile from 1925 and a sliding door for an airplane – neither identified in the first or second searches – as anticipatory. (Refer to the prosecution history incorporated fully by reference herein). Both are shown below:



The instant appeal followed pursuant to 37 C.F.R. 41.31(a), MPEP 1204 (appeal is allowed for claims twice rejected). In each office action the examiner argued as follows:

“With respect to the limitations to the core and the method of usage thereof, the elected invention is to the cover only and the limitations to the cover are also fully met by the reference above, and the reference is able to function as claimed.”

Applicant was unable to find the basis for any such language in the MPEP.

Applicant elected to pursue apparatus claims in prosecution and did not pursue method claims. The apparatus claims of the present application reference the “core” – a structure not a method – in defining the scope of the “cover”.

It appears the office action requires the applicant to claim an important element of a 21<sup>st</sup> century spacecraft without any reference to the spacecraft based entirely upon an election made in response to a restriction requirement as to method claims. Applicant

was unable to find any statutory or case law precedent to support the position in the office action.

Applicant is also concerned that the examiner's ongoing prior art searches in this case is impeding timely prosecution of this application. MPEP § 704.01 Search (excerpt):

In general the second examiner should not take an entirely new approach to the application or attempt to reorient the point of view of the previous examiner, or make a new search in the mere hope of finding something; see also MPEP § 904 How to Search (excerpt) The first search should be such that the examiner need not ordinarily make a second search of the prior art, unless necessitated by amendments to the claims by the applicant in the first reply, except to check to determine whether any reference which would appear to be substantially more pertinent than the prior art cited in the first Office action has become available subsequent to the initial prior art search. The first search should cover the invention as described and claimed, including the inventive concepts toward which the claims appear to be directed. It should not be extended merely to add immaterial variants.

There is no reason whatsoever to justify the new art cited, because a proper initial search ought to have revealed those references. New searches were not warranted because the Applicant's claim amendment in response to the fourth office action did not change the scope of the invention nor were there advanced novel arguments to overcome the cited art.

Further, applicant is concerned that proper review of this case may be lacking. MPEP § 707.02 Applications Up for Third Action and 5-Year Applications (excerpt):

The supervisory patent examiners should impress their assistants with the fact that the shortest path to the final disposition of an application is by finding the best references on the first search and carefully applying them. The supervisory patent examiners are expected to personally check on the pendency of every application which is up for the third or subsequent \*>Office< action with a view to finally concluding its prosecution).

The Examiner has never clearly articulated indicate how rejections may be overcome and how problems may be resolved. Also, this case has exceeded three actions and is in its fifth year of prosecution. There is no indication that this application was personally checked or carefully evaluated by the supervisory patent examiner, as is required by Patent Office Procedure. The foregoing are examples of the clear violations of the principles of compact prosecution that plague this case.

### **3. The current rejections**

As will be demonstrated, clear language in the claims has been ignored in this case even though all the rejections were based upon anticipation. Also, it is evident that the written description of the present application has not factored into an understanding by the examiner of the elements of the invention. This has rippled through the prosecution and is likely responsible for the fact that art is being cited from entirely irrelevant fields. Further, the impact of the election not to pursue the method claims in response to the restriction requirement is being viewed as limiting the applicability of specific references to structural elements as to the apparatus claims that are being asserted.

#### **I. As to U.S. Patent Number 4,375,876 to Stewart ('876 patent).**

##### As to all the claims

To begin, figure 1 of the '876 patent does not identify element 20 – the alleged first segment – as stated in the office action. Figure 2 has an element 20 and for the purpose of this response the applicant will presume this may be what the examiner had in mind.

The specification clearly identifies element 20 as “an associated outer fuselage skin.” Column 5, lines 44-45. Nothing in the '876 patent indicates that the skin is a substantially rigid structure as was expressly claimed in the present application. Further,

nothing in the '876 patent identifies that the aircraft door cited in the Office Action could function as a longeron cover as claimed in the present invention.

#### Claim 1

The office action alleges that the second segment identified in claim 1 of the present application is, "26d, 22figure 2". Such a position is clearly in error. Element 26d is a door pane while element 22 is the cabin ceiling – two entirely different structures.

The Office Action fails to identify an affixing member, rather just vaguely making a passing reference to "figure 9." The present application in claim 1 identifies that:

"... the arcuate exterior surface having at least one affixing member for cooperating with at least one affixing member on the interior surface of the inflatable shell such that the arcuate exterior surface is removably attached to the interior surface of the inflatable shell during the deployed configuration..."

Clearly, the claim identifies that the affixing member must be such that it cooperates with an affixing member of the interior surface of an inflatable shell. The '876 patent lacks any such reference. Further, even though the office action takes the position that the "core" cannot be relied upon in this claim, it does not limit reliance on the "inflatable shell".

The Office Action entirely fails to identify ribs. In this case, the Office Action does not even reference an element of a figure, or even a single figure from the '876 patent to meet the claim limitation. Rather, the Office Aaction states, "...a plurality of ribs connecting part 20 to part 22)". Such a position can only exist where the written description of the present application is ignored.

The present application identifies that the ribs connect the two segments while the connecting elements perform the different function of cooperating with the attachment elements on the longeron. Not only does the '876 patent fail to identify any such structure, the office action cites the same structure in the '876 patent to cover both ribs and attachment elements.

Clearly, nothing in the claims invite the application of the doctrine of double inclusion by the examiner. Ribs and attachment elements are clearly different structures in the instant claim and the written description. The office action distorts the clearly different structures in claim 1 (ribs and attachment elements). Such a position in the office action smears the line where one structure begins and the other ends. Nothing in the MPEP allows for the indiscriminate blurring of clearly defined structural elements in a patent application to arrive at a rejection under 35 U.S.C. § 102.

#### Claim 2

The limitations as identified supra in claim 1 are also present in independent claim 2. For the reason stated in the argument as to claim 1, claim 2 is also not anticipated by the '876 patent.

#### Claim 3

Claim 3 depends from claim 2 and includes the limitation that the core further comprises at least two longerons and the cover has a width and each longerons having an outer edge and the width of the cover is substantially the distance between the outer edges of the longerons and the cover fits over the longerons. Nothing in the '876 patent identifies longerons, or a cover, or a width in relation to a cover and a longeron.

#### Claim 4

Claim 4 depends from claim 2 and additionally identifies that the second segment is substantially rigid. Nothing in the '876 patent identifies a second segment as in the present application or that the second segment of the cover is substantially rigid.

#### Claim 6

Claim 6 depends from claim 2 and further identifies the cover is substantially hollow. Nothing in the '876 patent identifies a cover as in the present invention much less that such a cover is substantially hollow.

#### Claim 7

Claim 7 depends from claim 2 and identifies that the first segment has an access opening. Nothing in the '876 patent identifies an access opening for a first segment as described in the present application.

#### Claim 8

Claim 8 depends from claim 2 where the second segment has an access opening. Nothing in the '876 patent identifies an access opening for a second segment as described in the present application.

#### Claim 9

The limitations as identified supra in claim 1 are also present in independent claim 2. For the reason stated in the argument as to claim 1, claim 9 is also not anticipated by the '876 patent.



Claim 9 identifies that the attachment elements on the ribs cooperating with the attachment elements on the braces such that the cover is removably attached to the braces. Nothing in the '876 patent identifies attachment elements on ribs or on braces much less that the attachment elements cooperate such that the cover is removably attached to the braces.

#### Claim 10

Claim 10 depends from claim 9 wherein the core further comprises at least two longerons and the cover has a width and each longeron having an outer edge and the width of the cover is substantially the distance between the outer edges of the longerons and the cover fits over the longerons. Nothing in the '876 patent identifies a cover, a longeron, or describes a width in regards to a cover and longerons.

#### Claim 11

Claim 11 depends from claim 9 wherein the second segment is substantially rigid. Nothing in the '876 patent identifies a second segment that is substantially rigid.

#### Claim 13

Claim 13 depends from claim 9 wherein the cover is substantially hollow. Nothing in the '876 patent identifies a cover for a spacecraft that is substantially hollow.

#### Claim 14

The limitations as identified supra in claim 1 are also present in independent claim 2. For the reason stated in the argument as to claim 1, claim 14 is also not anticipated by the '876 patent.

Nothing in the '876 patent identifies a cover as in claim 14, or longerons, or a first segment having an arcuate exterior surface disposed generally opposite of the interior surface and along the length of the longitudinal axis, or ribs, or ribs having a plurality of attachment elements, or the attachment elements on the ribs cooperating with the attachment elements on the longerons such that the cover is removably attached to the longerons.

#### Claim 15

Claim 15 depends from claim 14 wherein the cover has a width and each longeron having an outer edge and the width of the cover is substantially the distance between the outer edges of the longerons. Nothing in the '876 patent identifies a cover for a spacecraft, longerons, a width of a cover, or that the width of the cover is related to the distance between longerons.

#### Claim 16

Claim 16 depends from claim 14 wherein the second segment is substantially rigid. Nothing in the '876 patent identifies a second segment as claimed here, much less that such a structure is substantially rigid.

#### Claim 17

Claim 17 depends from claim 14 wherein the first segment has an access opening. Nothing in the '876 patent identifies a first segment as in the present application or an access opening in such a structure.

### Claim 18

Claim 18 depends from claim 14 wherein the second segment has an access opening. Nothing in the '876 patent identifies a second segment as described in the instant application or that such a structure has an access opening.

### Claim 20

Claim 20 depends from claim 14 wherein the cover is substantially hollow. Nothing in the '876 patent identifies a cover as disclosed in the present application or that such a structure is substantially hollow.

### Claim 21

The limitations as identified supra in claim 1 are also present in independent claim 2. For the reason stated in the argument as to claim 1, claim 21 is also not anticipated by the '876 patent.

Claim 21 identifies a cover for being removably attached to a core of an inflatable modular structure having attachment elements. The cover has a first segment of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface, and having an arcuate exterior surface disposed generally opposite of the interior surface and perpendicular to the length of the longitudinal axis; a second segment having a substantially flat surface. There is also a plurality of ribs disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment and the ribs having a plurality of attachment elements for cooperating with the attachment elements on the core.

The office action entirely fails to address claim 21 independently. Rather, just grouping claim 21 together with all the other rejected claims. It is therefore not

surprising that the '876 patent does not disclose a cover for being removably attached to a core of an inflatable modular structure having attachment elements. Nor, is there any reference in the '876 patent to the cover having a first segment of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface, and having an arcuate exterior surface disposed generally opposite of the interior surface and perpendicular to the length of the longitudinal axis. Further, nothing in the '876 patent identifies a second segment having a substantially flat surface. There is also nothing in the '876 patent disclosing a plurality of ribs disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment and the ribs having a plurality of attachment elements for cooperating with the attachment elements on the core.

#### Claim 25

Claim 25 is a linking claim rejected by the office action. It addresses a method of using a cover with a core of an inflatable modular structure having a plurality of attachment elements thereon and an inflatable shell which utilizes the cover of claim 2. Notably, the office action makes no independent argument as to this method claim as the '876 patent discloses no such method.

## **II. As to U.S. Patent Number 1,603,182 to Aborn ('182 patent).**

#### As to claim 1

Claim 1 identifies an arcuate exterior surface that is perpendicular to the length of the longitudinal axis. All the independent claims of the application incorporate such language and therefore every dependent claim incorporates this phrase.

Element 15 does not have an arcuate exterior surface that is perpendicular to the length of the longitudinal axis. The top door 15 is an entirely different geometry, due

probably to the fact that it is for use with automobiles circa 1925 and not a cutting edge spacecraft in the 21<sup>st</sup> century.

The alleged affixing member 16 is not capable of use with the interior surface of a spacecraft.

As to the alleged ribs and second segment, the office action states:

“... a plurality of ribs (the parts connecting part 15 and the second segment).”

There are no parts connecting part 15 and the second segment in the ‘182 patent.

As one should expect, since the ‘182 patent is directed to a weather guard and not the alleged door, there is no mention of any limitation as to the first or second segments being substantially rigid as expressly claimed in the present application.

Claim 1 also identifies that “... the arcuate exterior surface having at least one affixing member for cooperating with at least one affixing member on the interior surface of the inflatable shell ...” The office action identifies item 16 as an affixing member in the ‘182 patent. Item 16 is identified as a hinge (Column 2, line 72) in the ‘182 patent. Nothing in the ‘182 patent identifies that this hinge used in a circa 1925 automobile top door could cooperate with the interior surface of an inflatable shell of a modular inflatable spacecraft.

## Claim 2

The limitations as identified supra in claim 1 are also present in claim 2. For the reason stated in the argument as to claim 1, claim 2 is also not anticipated by the ‘182 patent.

### Claim 3

Claim 3 depends from claim 2 and includes the limitation that the core further comprises at least two longerons and the cover has a width and each longerons having an outer edge and the width of the cover is substantially the distance between the outer edges of the longerons and the cover fits over the longerons. Nothing in the '182 patent identifies longerons, or a cover, or a width in relation to a cover and a longeron.

### Claim 4

Claim 4 depends from claim 2 and additionally identifies that the second segment is substantially rigid. Nothing in the '182 patent identifies a second segment as in the present application or that the second segment of the cover is substantially rigid.

### Claim 6

Claim 6 depends from claim 2 and further identifies the cover is substantially hollow. Nothing in the '182 patent identifies a cover as in the present invention much less that such a cover is substantially hollow.

### Claim 7

Claim 7 depends from claim 2 and identifies that the first segment has an access opening. Nothing in the '182 patent identifies an access opening for a first segment as described in the present application.

### Claim 8

Claim 8 depends from claim 2 where the second segment has an access opening. Nothing in the '182 patent identifies an access opening for a second segment as described in the present application.

#### Claim 9

The limitations as identified supra in claim 1 are also present in claim 2. For the reason stated in the argument as to claim 1, claim 9 is also not anticipated by the '182 patent.

Claim 9 identifies that the attachment elements on the ribs cooperating with the attachment elements on the braces such that the cover is removably attached to the braces. Nothing in the '182 patent identifies attachment elements on ribs or on braces much less that the attachment elements cooperate such that the cover is removably attached to the braces.

#### Claim 10

Claim 10 depends from claim 9 wherein the core further comprises at least two longerons and the cover has a width and each longeron having an outer edge and the width of the cover is substantially the distance between the outer edges of the longerons and the cover fits over the longerons. Nothing in the '182 patent identifies a cover, a longeron, or describes a width in regards to a cover and longerons.

#### Claim 11

Claim 11 depends from claim 9 wherein the second segment is substantially rigid. Nothing in the '182 patent identifies a second segment that is substantially rigid.

### Claim 13

Claim 13 depends from claim 9 wherein the cover is substantially hollow. Nothing in the '182 patent identifies a cover for a spacecraft that is substantially hollow.

### Claim 14

The limitations as identified supra in claim 1 are also present in claim 2. For the reason stated in the argument as to claim 1, claim 14 is also not anticipated by the '182 patent.

Nothing in the '182 patent identifies a cover as in claim 14, or longerons, or a first segment having an arcuate exterior surface disposed generally opposite of the interior surface and along the length of the longitudinal axis, or ribs, or ribs having a plurality of attachment elements, or the attachment elements on the ribs cooperating with the attachment elements on the longerons such that the cover is removably attached to the longerons.

### Claim 15

Claim 15 depends from claim 14 wherein the cover has a width and each longeron having an outer edge and the width of the cover is substantially the distance between the outer edges of the longerons. Nothing in the '182 patent identifies a cover for a spacecraft, longerons, a width of a cover, or that the width of the cover is related to the distance between longerons.



#### Claim 16

Claim 16 depends from claim 14 wherein the second segment is substantially rigid. Nothing in the '182 patent identifies a second segment as claimed here, much less that such a structure is substantially rigid.

#### Claim 17

Claim 17 depends from claim 14 wherein the first segment has an access opening. Nothing in the '182 patent identifies a first segment as in the present application or an access opening in such a structure.

#### Claim 18

Claim 18 depends from claim 14 wherein the second segment has an access opening. Nothing in the '182 patent identifies a second segment as described in the instant application or that such a structure has an access opening.

#### Claim 20

Claim 20 depends from claim 14 wherein the cover is substantially hollow. Nothing in the '182 patent identifies a cover as disclosed in the present application or that such a structure is substantially hollow.

#### Claim 21

The limitations as identified supra in claim 1 are also present in claim 2. For the reason stated in the argument as to claim 1, claim 21 is also not anticipated by the '182 patent.

Claim 21 identifies a cover for being removably attached to a core of an inflatable modular structure having attachment elements. The cover has a first segment of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface, and having an arcuate exterior surface disposed generally opposite of the interior surface and perpendicular to the length of the longitudinal axis; a second segment having a substantially flat surface. There is also a plurality of ribs disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment and the ribs having a plurality of attachment elements for cooperating with the attachment elements on the core.

The office action entirely fails to address claim 21 independently. Rather, just grouping claim 21 together with all the other rejected claims. It is therefore not surprising that the '182 patent does not disclose a cover for being removably attached to a core of an inflatable modular structure having attachment elements. Nor, is there any reference in the '182 patent to the cover having a first segment of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface, and having an arcuate exterior surface disposed generally opposite of the interior surface and perpendicular to the length of the longitudinal axis. Further, nothing in the '182 patent identifies a second segment having a substantially flat surface. There is also nothing in the '182 patent disclosing a plurality of ribs disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment and the ribs having a plurality of attachment elements for cooperating with the attachment elements on the core.

#### Claim 25

Claim 25 is a linking claim rejected by the office action. It addresses a method of using a cover with a core of an inflatable modular structure having a plurality of attachment elements thereon and an inflatable shell which utilizes the cover of claim 2.

Notably, the office action makes no independent argument as to this method claim as the ‘182 patent discloses no such method.

### **III. Other arguments**

The office action, as with the previous office actions, makes the baseless assertion that;

“With respect to the limitations to the core and the method of usage thereof, the elected invention is to the cover only and the limitations to the cover are also fully met by the reference above, and the reference is able to function as claimed.”

Claim 1 is a product claim; not a method claim. Claim 1 identifies that:

“... the arcuate exterior surface having at least one affixing member for cooperating with at least one affixing member on the interior surface of the inflatable shell such that the arcuate exterior surface is removably attached to the interior surface of the inflatable shell during the deployed configuration...”

The arcuate exterior surface 100 has attachment elements that cooperate with affixing member of interior surface of the inflatable shell. The inflatable shell – as clearly identified in the specification – is not part of the “core”. Therefore, this limitation must be present in the newfound prior art to be anticipating. It is not. The car door and plane door patents do not have affixing members on the arcuate exterior surface.

Election of invention in response to a restriction requirement does not trump the language of an elected claim and the examiner has failed to cite any case precedent or related statutory basis to support such a position.

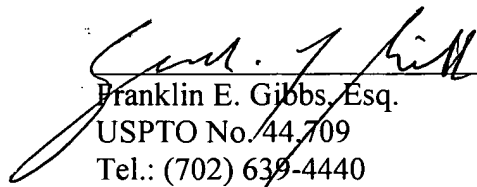
#### 4. Summary

For the foregoing reasons, Applicant maintains that neither the Stewart nor Aborn references render the invention of the instant application anticipated. The Board of Patent Appeals and Interferences is respectfully requested to overturn the Examiner's rejections of Claims 1-4, 6-11, 13-18, 20-21, and 25.

If the Applicant's attorney can be of any further assistance, please call the undersigned at the number provided.

Respectfully submitted,

Dated: Sept. 16, 2008

  
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## CLAIMS APPENDIX

1. A cover for use with an inflatable modular structure, the inflatable modular structure having a core with at least two longerons and a plurality of attachment elements disposed thereon for cooperating with a plurality of covers such that each cover is releasably attached to the core in the pre-deployed configuration, an inflatable shell attached to the core, the inflatable shell having an internal surface that generally encloses the longerons and the plurality of covers, and in the pre-deployed configuration the inflatable shell is folded over, and secured to, the covers, and in the deployed configuration the inflatable shell is pumped up with air, unfolded from the covers, the covers subsequently released from the core and the covers being removably attached to a plurality of affixing members disposed on the inside surface of the inflatable shell such that the covers serve as a foundation for securing items in place, the cover comprising:

a first segment of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface, and having an arcuate exterior surface disposed generally opposite of the interior surface and perpendicular to the length of the longitudinal axis, the arcuate exterior surface of the first segment being adapted to provide protection to the inflatable shell from unwanted contact with the core during the pre-deployed configuration and the arcuate exterior surface having at least one affixing member for cooperating with at least one affixing member on the interior surface of the inflatable shell such that the arcuate exterior surface is removably attached to the interior surface of the inflatable shell during the deployed configuration;

a second segment having a substantially flat surface and the second segment being adapted to substantially secure items in place when the arcuate exterior surface is fastened to the interior surface of the inflatable shell in the deployed configuration; and

a plurality of ribs disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment, and a plurality of attachment elements disposed on the ribs adapted to cooperate with the attachment elements on the longeron such that the cover is releasably attached to the core in the pre-deployed configuration.

2. A cover for use with a core of an inflatable modular structure, the core having a plurality of attachment elements, the cover comprising:

a first segment of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface, and having an arcuate exterior disposed generally opposite of the interior surface and surface perpendicular to the length of the longitudinal axis;

a second segment having a substantially flat surface; a plurality of ribs disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment and the ribs having a plurality of attachment elements; and the attachment elements on the ribs cooperating with the attachment elements on the core such that the cover is removably attached to the core.

3. The cover of claim 2 wherein the core further comprises at least two longerons and the cover has a width and each longerons having an outer edge and the width of the

cover is substantially the distance between the outer edges of the longerons and the cover fits over the longerons.

4. The cover of claim 2 wherein the second segment is substantially rigid.

5. (NOT APPEALED).

6. The cover of claim 2 wherein the cover is substantially hollow.

7. The cover of claim 2 wherein the first segment has an access opening.

8. The cover of claim 2 wherein the second segment has an access opening.

9. A cover for use with at least two braces of a core of an inflatable modular structure, the braces having a plurality of attachment elements, the cover comprising:

a first segment of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface, and having an arcuate exterior surface disposed generally opposite of the interior surface and perpendicular to the length of the longitudinal axis;

a second segment having a substantially flat surface;

a plurality of ribs disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment and the ribs having a plurality of attachment elements; and

the attachment elements on the ribs cooperating with the attachment elements on the braces such that the cover is removably attached to the braces.

10. The cover of claim 9 wherein the core further comprises at least two longerons and the cover has a width and each longeron having an outer edge and the width of the cover is substantially the distance between the outer edges of the longerons and the cover fits over the longerons.

11. The cover of claim 9 wherein the second segment is substantially rigid.

12. (NOT APPEALED).

13. The cover of claim 9 wherein the cover is substantially hollow.

14. A cover for use with at least two longerons of a core of an inflatable modular structure, the longerons having a plurality of attachment elements, the cover comprising:

a first segment of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface, and having an arcuate exterior surface disposed generally opposite of the interior surface and along the length of the longitudinal axis;

a second segment having a substantially flat surface; a plurality of ribs disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment and the ribs having a plurality of attachment elements; and



the attachment elements on the ribs cooperating with the attachment elements on the longerons such that the cover is removably attached to the longerons.

15. The cover of claim 14 wherein the cover has a width and each longeron having an outer edge and the width of the cover is substantially the distance between the outer edges of the longerons.

16. The cover of claim 14 wherein the second segment is substantially rigid.

17. The cover of claim 14 wherein the first segment has an access opening.

18. The cover of claim 14 wherein the second segment has an access opening.

19. (NOT APPEALED).

20. The cover of claim 14 wherein the cover is substantially hollow.

21. A cover for being removably attached to a core of an inflatable modular structure having attachment elements disposed thereon, the cover comprising:

a first segment of at least one substantially sheet like and substantially rigid structure and having a longitudinal axis, an interior surface, and having an arcuate exterior surface disposed generally opposite of the interior surface and perpendicular to the length of the longitudinal axis;

a second segment having a substantially flat surface; and  
a plurality of ribs disposed between, and joined to, the inner surface of the first segment and the substantially flat surface of the second segment and the ribs having a plurality of attachment elements for cooperating with the attachment elements on the core.

22. (NOT APPEALED).

23. (NOT APPEALED).

24. (NOT APPEALED).

25. A method of using a cover with a core of an inflatable modular structure having a plurality of attachment elements thereon and an inflatable shell which utilizes the cover of claim 2.

26. (NOT APPEALED).

27. (NOT APPEALED).

28. (NOT APPEALED).

29. (NOT APPEALED).

## **EVIDENCE APPENDIX**

There is no evidence apart from that appearing in the file history. The file history being incorporated completely herein by reference.

## **RELATED PROCEEDINGS APPENDIX**

There are no proceeding related to this patent application.